

# PL-51

KT

## OPERATING INSTRUCTIONS



 **PIONEER®**

Thank you very much for your purchase of Pioneer model PL-51.

You will get many years of pleasure from this top-quality stereo turntable.

To get the most from this feature-packed turntable, please read the operating instructions and follow the directions indicated.

For the psychological benefit of those who still want to use their optional phono cartridges, no phono cartridge is equipped with this turntable. The first thing you have to do is to attach your option to a head shell referring to the directions indicated in the instructions.

## FEATURES

### Direct Drive System

No belt or idlers. The DC servo motor drives the platter directly, resulting in lowest possible vibrations transmitted to the tonearm.

The result is a new height of turntable performance plenty for the most demanding audio enthusiast.

### Electronic Servo Control

Turntable revolution speed is affected by many factors, including ambient room temperature, etc., which cannot be predicted or corrected by motor performance alone. This electronic circuit comes into play at the touch of a button, letting you adjust the speed  $\pm 2\%$  during either 33-1/3 or 45 rpm play.

### Precision Tracking, Sensitive Anti-skating System

Playing 4-channel records requires extra tonearm precision, and the PL-51 delivers. Not only with an exactly-balanced tonearm design, but also with an ideal anti-skating system. The result is stable tracking over every part of the record for brilliant response from the first note to the last.

### Eye-appeal Design

The cabinet is set off by the natural beauty of selected walnut, with a smart black base plate. All controls are grouped on the right for easy one-hand operation.

## INSTALLATION

Install the PL-51 with the following points in mind.

- The place must be well-ventilated and free from humidity and dust.
- The unit should not be exposed to direct sunlight.
- The unit should not be placed near any source of heat.
- The unit should be placed as far from the speaker systems as possible.

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## STEREO SYSTEM SETUP

The PL-51 is a first-quality stereo turntable and can provide its full performance only when combined with other components of equal quality, so you should select other quality components comparable to this turntable. Set up the system as shown in Figs. 1 or 2.

### A WORD ABOUT COMPONENTS

Be sure to select the rest of your system with an eye to achieving sufficient performance and response so that you can make the most of your PL-51.

A wise choice would be the Pioneer components designed and manufactured to provide these very characteristics.

### The Amplifier

There are many types available: Integrated stereo amplifiers, AM/FM stereo receiver, stereo pre-amplifiers and stereo power amplifiers. You can take your choice of systems, making sure the one you choose will blend well with the speakers you select. Look for high performance and stability in an amplifier.

### The Speakers

Here there are also many possibilities. You have a choice of bass-reflex type or fully-enclosed type cabinets, full-range, 2-way, 3-way and other types of speaker component combinations, and bookshelf, floor type or omnidirectional, etc. styling. With all these choices, your main guide should be how well the speakers sound with the rest of your system.

### The Phono Cartridge

There are magnetic (moving coil, moving magnet and induced magnet types) cartridges as well as semi-conductor types and optical types.

If you use a moving coil (MC) type cartridge with the PL-51, make sure your amplifier has the capability of accepting this type of input signal.

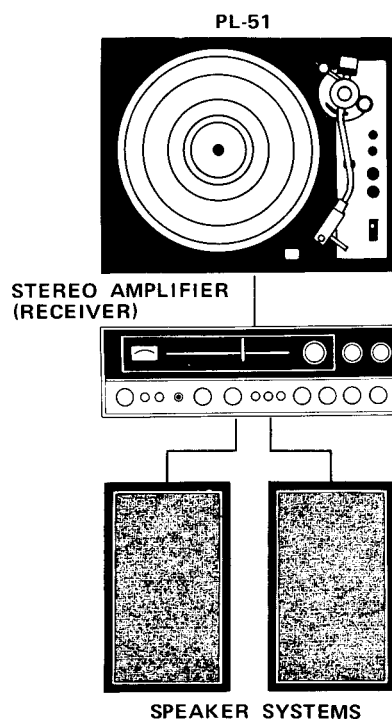


Fig. 1

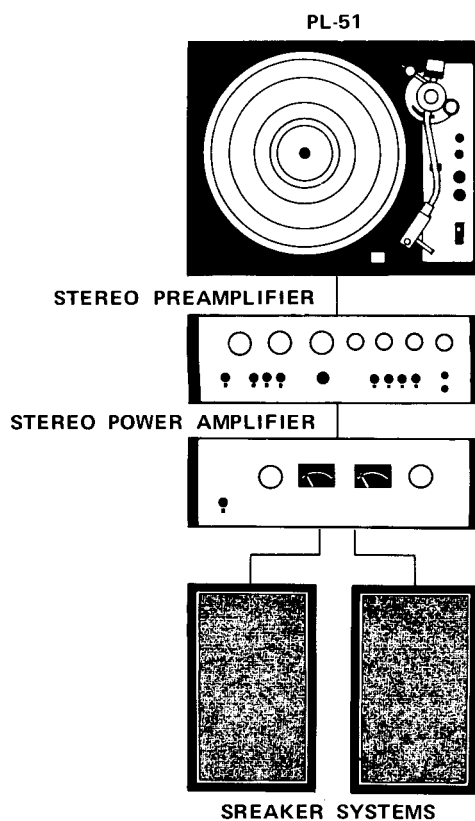


Fig. 2

## ASSEMBLY

To avoid possible damage during transport, heavy parts (such as the platter) and delicate ones are packed separately from the main body. Assemble them into one unit as shown in the illustrations.

### REMOVE TONEARM PACKING

Gently remove the tonearm packing as shown in Fig. 3.

### PLATTER INSTALLATION

Remove the platter from its separate package and slip it onto the center shaft.

### CARTRIDGE MOUNTING

You will have to mount the cartridge you want to use. Follow the directions in Fig. 4 being careful to connect the leads properly.

Before tightening the cartridge in the head shell, adjust the overhang as shown in Fig. 5. Use the overhang adjustment gauge included among the accessories.

### HEAD SHELL INSTALLATION

Slip the head shell onto the end of the tonearm and fix it securely with the locking collar attached to the tonearm (Fig. 6).

### MAIN COUNTERWEIGHT INSTALLATION

The main counterweight slips onto the rear end of the tonearm. Once it is slipped on a bit the threads will engage. Screw on further, turning in a clockwise direction a few times (Fig. 7).

### LATERAL BALANCE WEIGHT INSTALLATION

Slip the lateral balance weight onto its shaft and tighten it at about midway, using the screwdriver supplied with the accessories (Fig. 8).

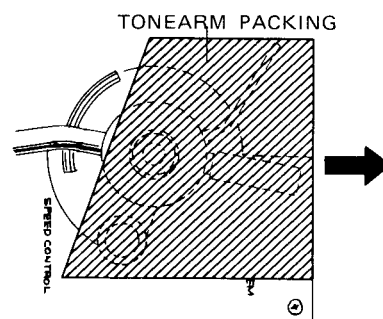


Fig. 3

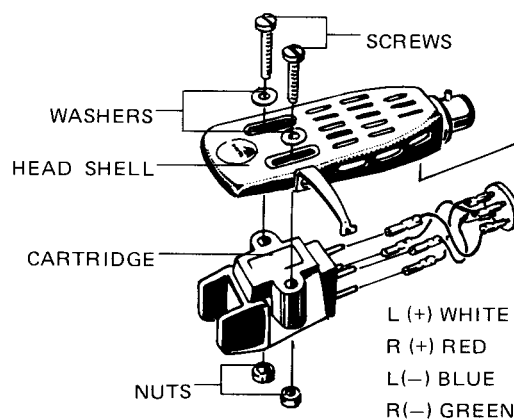


Fig. 4

Adjust cartridge so that the stylus comes right over this index line

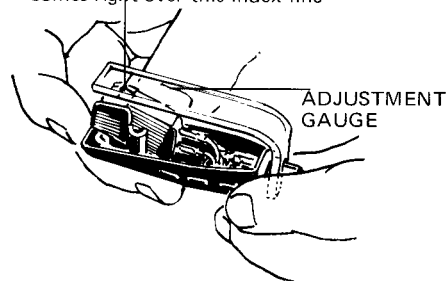


Fig. 5

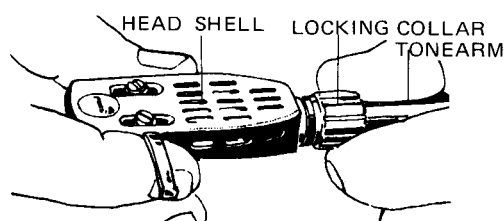


Fig. 6

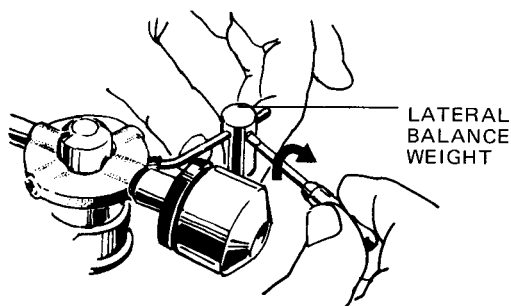


Fig. 8

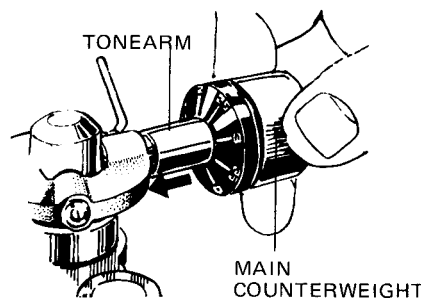


Fig. 7

# PARTS IDENTIFICATION

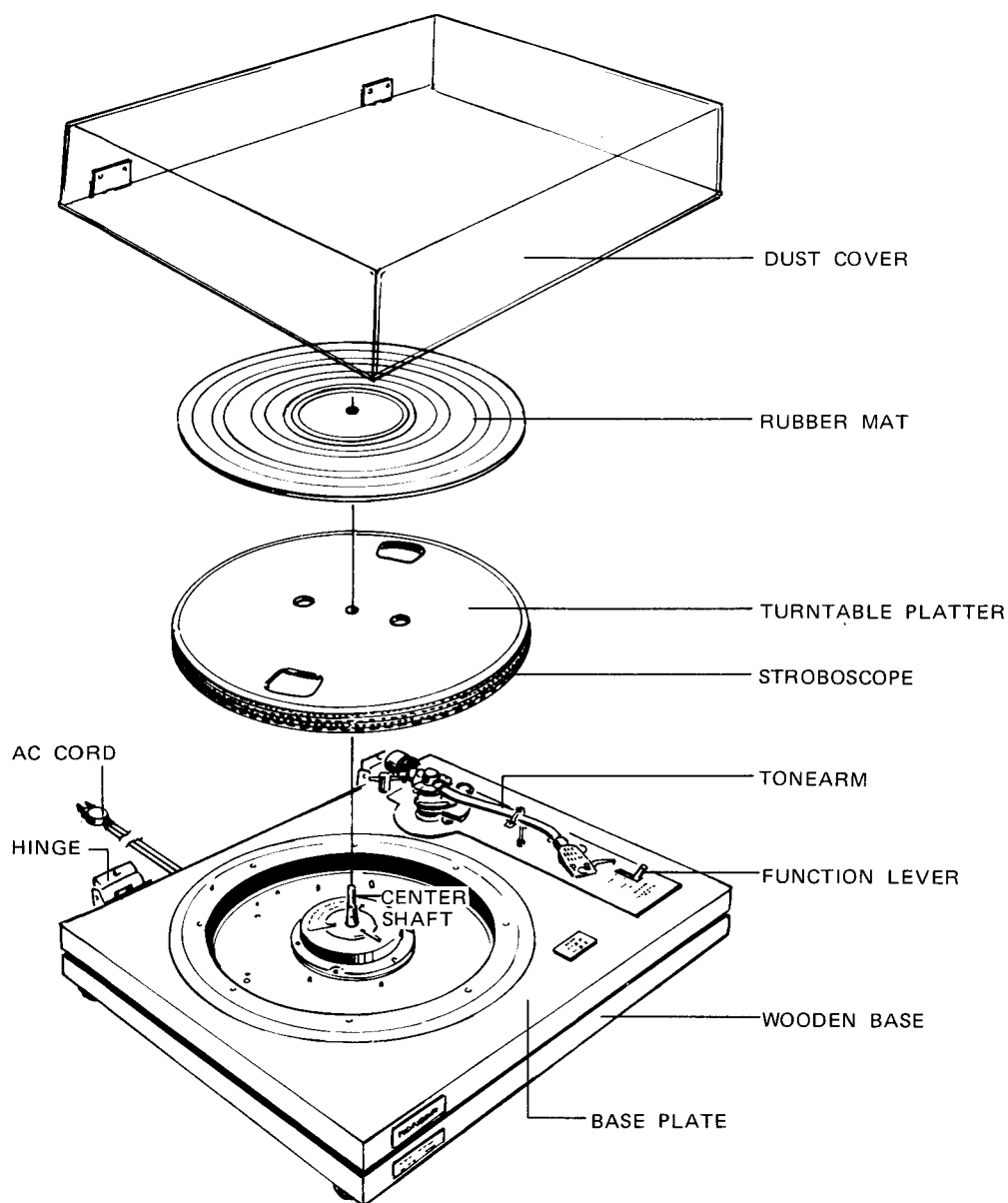


Fig. 9

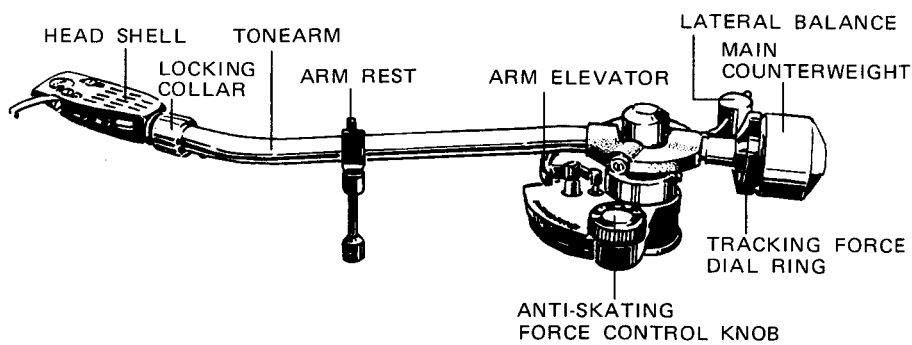


Fig. 10

# ADJUSTMENTS

## LEVEL BALANCE ADJUSTMENT

Set the anti-skating force control to "0," remove the stylus protector cover from the cartridge and turn the main counterweight until the tonearm is well-balanced horizontally (lead end and weight end the same height). The turntable body must of course be level before this adjustment is made.

Once the level balance is achieved, turn the front part of the main counterweight so that its "0" reading aligns with the black line on the top of the tonearm shaft (Fig. 11).

Be sure to turn only this front ring the rest of the main counterweight should not be moved.

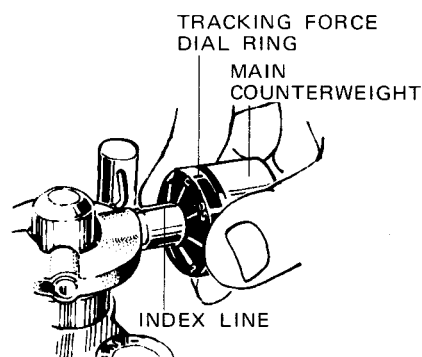


Fig. 11

## CARTRIDGE WEIGHT AND SUB WEIGHT

If the cartridge you wish to use is extremely heavy or light you will not be able to achieve level balance with the above method.

For an unusually light cartridge, slip in the special weight plate (included in the accessories) between the cartridge and the head shell.

For a very heavy cartridge, add the sub weight to the rear end of the tonearm as shown in Fig. 12.

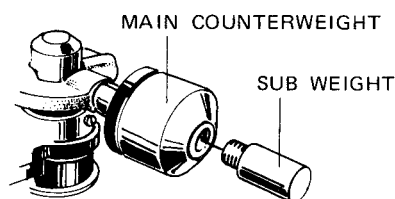


Fig. 12

## LATERAL BALANCE ADJUSTMENT

Adjust the lateral balance weight, as shown in Fig. 13, so that the left end of the weight is 10 ~ 15mm from the end of its shaft. Then retighten its screw. The screw should be on the rear side.

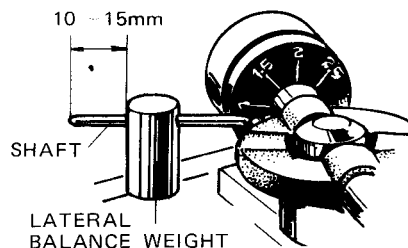


Fig. 13

## What is "Lateral Balance"?

When the plane between the stylus on one end and the tonearm pivot is level, optimum response is assured. If this slips to either the left or right then the stylus pressure will not be the same on both walls of the record groove, affecting stereo response. Lateral balance means keeping this left-right plane in line.

## TRACKING FORCE ADJUSTMENT

After the level balance adjustment is complete, the tonearm is at zero tracking force. Turn the whole main counterweight (the front part ring gauge will turn with it) until the gauge reads the correct force for the cartridge.

The gauge is graduated between 0.5 and 4.0 grams (Fig. 14).

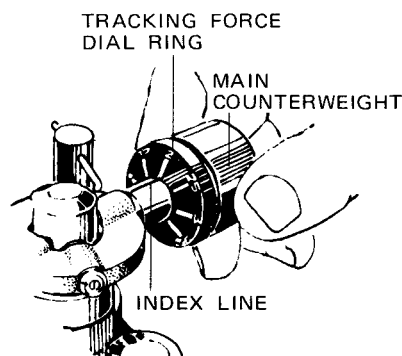


Fig. 14

## ANTI-SKATING ADJUSTMENT

The anti-skating force control knob should be adjusted to the same setting as that required for the tracking force (Fig. 15).

For example, if a tracking force of 2 grams is required, set the knob to 2.

What is "Anti-skating"?

As the record groove moves in relation to the stylus it exerts a force on the stylus which pushes it toward the center of the record. This is called "skating force" and will actually cause the stylus to jump out of the groove and "skate" if it is too strong. Even when this does not occur, the force distorts the sound response. The anti-skating device is designed to cancel this force.

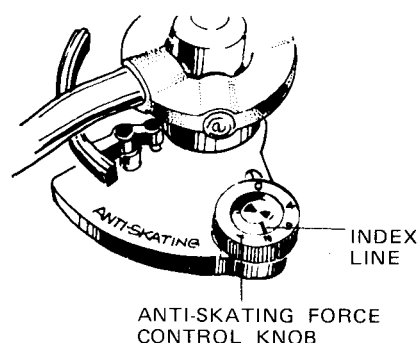


Fig. 15

## STEREO AMPLIFIER CONNECTIONS

The input jacks on the amplifier, to which the PL-51 leads must be connected, will vary according to the type of cartridge used. To choose the proper jacks, consult the instructions furnished with the cartridge, then connect the PL-51 leads as follows (Fig. 16):

- Remove the L and R cords from the PL-51 packing case and plug one end of each into the proper PL-51 amplifier input jack. Do not confuse the L and R connections.
- The single cord with metal clips at each end is the ground lead. It should be firmly connected to the ground (E or GND) terminals on the PL-51 and the amplifier.

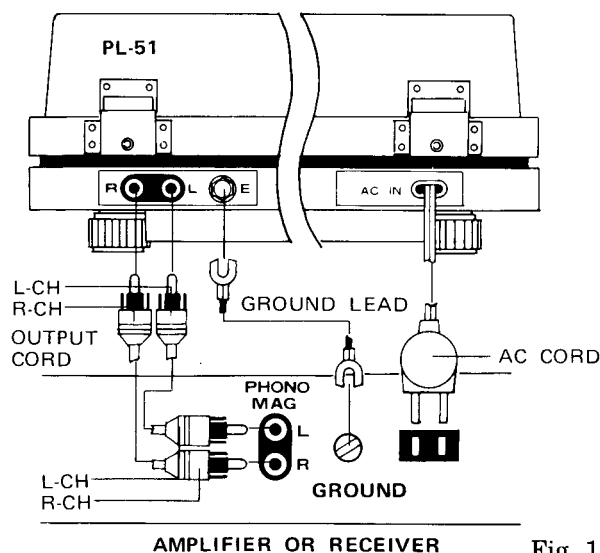


Fig. 16

## DUST COVER ATTACHMENT

Slip the catches on the plastic dust cover into their counterparts on the cabinet.

Be sure to press the two sets of catches together firmly (Fig. 17).

Now the dust cover can be lifted up to stay in place at angles of 30° to 60°.

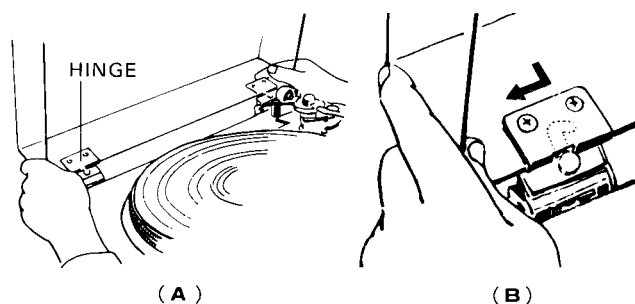


Fig. 17

# PARTS AND THEIR FUNCTIONS

## FUNCTION LEVER

This three-stage lever turns the motor on and off, and raises and lowers the tonearm (Fig. 18).

### ●OFF Position

Shuts off power to the motor, stopping platter rotation.

### ●ON-UP Position

Switched from OFF this position causes the platter to begin moving. Switched from DOWN it raises the tonearm so that the stylus leaves the record surface smoothly.

### ●DOWN Position

When you are ready to begin record play move the lever to this position and stylus will lower gently onto the record.

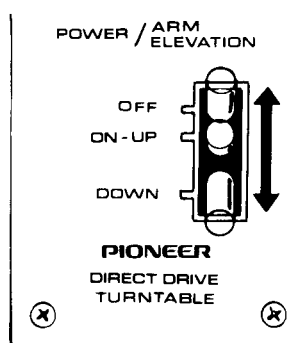


Fig. 18

## ARM REST

The tonearm should be on the arm rest whenever the turntable is not in use. If the unit is to be moved or transported, first secure the tonearm to the arm rest with the built-in clamp (Fig. 20).

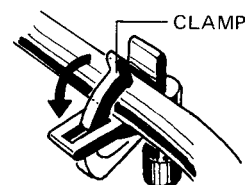


Fig. 20

## STROBOSCOPE

The proper part of the stroboscope band to read depends upon the power source and record speed as shown below (Fig. 19).

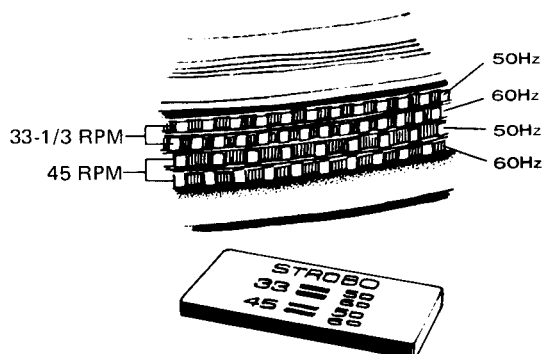


Fig. 19

## 33-1/3 RPM BUTTON

Push this button for playing a 33-1/3 rpm speed record (Fig. 21).

## 45 RPM BUTTON

Push this button for playing a 45 rpm speed record (Fig. 21).

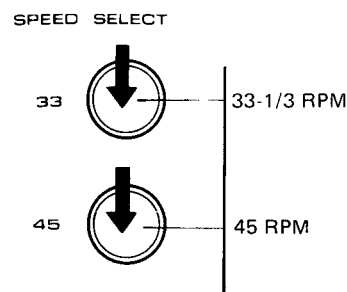
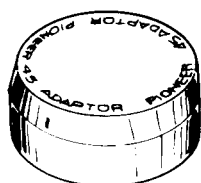


Fig. 21



### 45 RPM ADAPTOR

A 45 rpm adaptor is supplied in the accessory group, which permits 45 rpm records to be fitted on the PL-51 platter shaft. When the adaptor is not in use, keep it on the stub located in the upper right of the base plate.



45 RPM ADAPTOR

Fig. 22

### ARM ELEVATION DEVICE

This hydraulic system controls the height of the tonearm according to the function lever setting. Its height can be adjusted by loosening the screw.

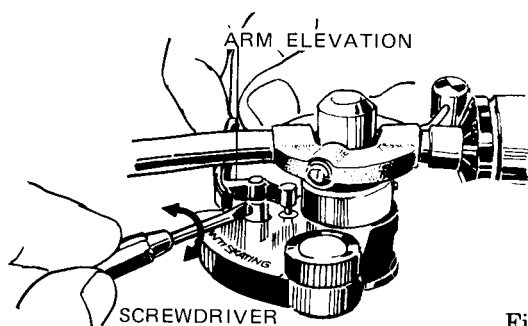


Fig. 23

### SPEED CONTROL KNOBS

With either of the speed selectors pressed, watch the appropriate stroboscope band. Adjust for precise speed (so that the band appears to stand still) by turning that speed control knobs. Turn toward ⊕ (clockwise) for faster speed, toward ⊖ (counterclockwise) for slower.

When the stroboscope appears to stand still, the speed is correct.

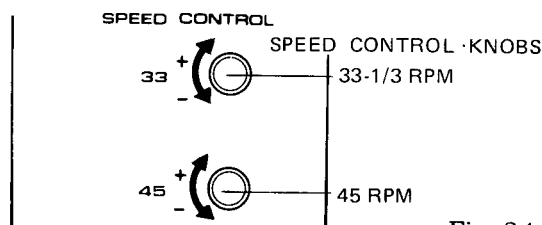


Fig. 24

## OPERATION

The operation is hardly anything difficult about playing records on the PL-51 once you are accustomed to the operation. Simply follow these steps:

1. Place a record on the platter.
2. Remove the stylus protector from the cartridge and free the tonearm from the rest clamp.
3. Move the function lever from OFF to ON-UP (the platter will start to revolve).
4. Set the speed selector corresponding to the speed of the record.
5. Watch the proper stroboscope band running and adjust the speed with the speed control as explained above.
6. When the stroboscope appears to stand still, move the tonearm so that the stylus is directly over the starting point of the record.
7. Move the function lever to DOWN. The tonearm will gently lower onto the record and play will start.
8. If you wish to stop play in the middle, simply move the function lever to ON-UP.
9. After the record has played, move the function lever to OFF and return the tonearm to its arm rest.

### HOW TO USE THE FUNCTION LEVER BEST

The function lever is particularly convenient when you wish to choose your favorite music or songs only from among the several songs recorded on the same side of an LP record.

- If you move the tonearm with the function lever set to DOWN, be sure to lever it very carefully.

## PRECAUTIONS

### CHOOSE A LEVEL LOCATION

If the unit is not level various performance problems will occur, so pay careful attention to this point.

### DO NOT PRESS ON THE PLATTER

Pressing on the turntable platter, especially during play, can damage the mechanism.

### ALWAYS CLEAN THE STYLUS

- If the stylus is dirty sound quality will deteriorate; brush it off with a soft brush from time to time.
- If the record surface is dirty, clean it with a record cleaner before playing.
- It is preferable to make it a habit to clean a record surface before each play.
- Touching the stylus with a finger is a common cause of stylus damage, so be very careful when handling the tonearm and when cleaning.

### NO VIBRATIONS

The tracking force of your stylus will probably be extremely light, so it is important to place the unit in a location protected from vibrations. This is another reason why it should not be too close to the speakers.

### DO NOT OPEN THE SET OR TOUCH THE INSIDE PARTS

Your PL-51 is assembled with a number of small and delicate components into one precision mechanism which should not be touched. There is no reason to open the unit or remove the turntable once assembly is complete.

### FOR FINE SPEED ADJUSTMENTS

To make proper adjustment, check the stroboscope in fluorescent or other electric bulb light. Avoid making use of sunlight.

## TROUBLESHOOTING

### HOWLING

"Howling" is acoustical feedback from speakers to the turntable unit. Increasing the distance between the speakers and the turntable, or even better, laying a soft cushion under the turntable will eliminate howling.

### HUM

"Hum" is a low-pitch droning noise, often 60 or 50Hz, resulting from a loose connection of the ground lead. If hum occurs:

- Check the connection of the PL-51 ground lead (the black lead with a split lug) to your amplifier. If it is loose, connect it.
- Check if the output lead of the PL-51 is running near the power transformer of your amplifier. Changing the position of the PL-51 in relation to the amplifier will often eliminate hum.

This unit is factory-set for AC 120V operation when shipped.

If the house current in your area is not in 120V, please contact your Pioneer dealer in order to re-adjust the 120V unit for 110V, 130V, 220V and 240V operation.

# SPECIFICATIONS

## Phono Motor and Turntable

Motor:	DC servo motor
Speed:	Two speeds: 33-1/3 rpm 45 rpm
Wow and flutter:	0.06% (WRMS) or less
S/N:	55dB or more (in case of using Pioneer cartridge model PC-50)
Turntable platter:	31cm diam, Aluminum-diecast alloy

## Tonearm

Tonearm type:	Static balance, S-type, pipe arm
Effective arm length:	221mm
Tracking error:	+3° ~ -1°
Overhang:	15.5mm
Usable cartridge weight:	4g (min) ~ 14g (max)

## Subfunctions

Large-size shock absorbers
Anti-skating force control
Lateral balance control
Oil-damping arm elevator
Hinges (Free-adjustable between 30° ~ 60°)
Speed fine adjusters (33-1/3rpm, 45rpm: for use in turntable speed adjustment with stroboscope)
Stroboscope (On turntable platter band)

## Others

Power requirements:	AC. 120V, 60Hz
Power consumption:	5.2W (max)
Outer dimensions	480(W) x 410(D) x 185(H)mm 18-7/8(W) x 16-1/8(D) x 7-1/4(H) in.
Weight	11 kg, 24lb 3oz

## Accessory Group

Overhang adjustment gauge	1
45 rpm adaptor	1
Weight plate (Cartridge weight-adjustable)	1
Head shell	1
Sub counterweight	1
Screwdriver	1
Output cord (Connection cord)	1
Cartridge mounting screws	2
Cartridge mounting nuts	2
Cartridge mounting washers	2
Operating instructions	1

**NOTE:** Specifications and the design subject to possible modification without notice due to improvements.



Mounted is a Pioneer phono cartridge model PC-50 in this picture.